

EPA's Response to Comments

on the Draft NPDES Permit for:
Alyeska Pipeline Service Company
Valdez Marine Terminal
NPDES No.: AK-002324-8
June 14, 2004

On April 9, 2003, the Environmental Protection Agency (EPA) proposed reissuance of a National Pollutant Discharge Elimination System (NPDES) permit number AK-002324-8 to the Alyeska Pipeline Service Company to discharge pollutants from the Valdez Marine Terminal in Valdez, Alaska, pursuant to provisions of the Clean Water Act. The discharge from the facility consists of treated ballast and bilge water and other operational wastes associated with oil storage and transport. Treated sanitary wastes are also discharged. The receiving water is Port Valdez.

The State of Alaska, Department of Environmental Conservation also issued notice of their intent to certify that the subject discharge will comply with the applicable provisions of Sections 208(e), 301, 302, 303, 306 and 307 of the Clean Water Act. A final Certification of Reasonable Assurance was issued on May 24, 2004 and is attached to this RTC. The Certification was also used in developing this response to comment document.

The public notice for comments on the draft permit and certification was published in the Anchorage and Valdez, Alaska newspapers on April 9, 2003. The comment period extended until June 9, 2003. EPA received comments on the draft NPDES permit from the following: 1) Alyeska Pipeline Service Company via a letter to EPA from Rod Hanson, Valdez Marine Terminal Manager dated June 9, 2003, 2) the Prince William Sound Regional Citizens' Advisory Council (RCAC) via a letter to EPA from Mr. John Devens, Executive Director, dated June 4, 2003, and 3) the National Marine Fisheries Service via a letter to EPA from Mr. James W. Balsiger, Administrator, Alaska Region, dated June 18, 2003. This document represents EPA's response to each of the comments received during the comment period. A portion of the comment or a summary is provided below followed by EPA's response.

Comments Submitted by Alyeska Pipeline Service Company:

1. Continuous pH Monitoring. Alyeska commented on the instantaneous pH limit and the continuous pH monitoring requirement. Alyeska comments that time weighted averaging is necessary to provide some accommodation for periodic variations in pH values. Alyeska states that EPA addresses this issue in the following reference document: *Background Document for Modification of pH Effluent Limitations Guidelines and Standards for Point Sources Required by NPDES Permit to Monitor Continuously Effluent pH, EPA 440/2-80-083 (1998)*. Alyeska requests the following footnote be added to Table 1 of the permit for pH:

footnote: Indicates the range of permitted values. When pH is continuously monitored, excursions between 5.0 and 6.0, or 8.5 and 9.5 shall not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 30 minutes per month. Any excursions below 5.0 and above 9.5 are violations. The instantaneous maximum and minimum pH shall be reported monthly.

Response: Per federal regulation 40 CFR 401.17, “pH Effluent limitations under continuous monitoring”, excursions are not considered violations provided they do not exceed the time restrictions specified in the regulation. Specifying a pH range where no excursions are allowed, below 5.0 and above 9.5 in this case, is more stringent than specified in the regulation. Since the request is consistent with 40 CFR 401.17, the final permit will include the pH footnote. (Note the 7 hour 30 minute period has been changed to 7 hour 26 minutes in order to be consistent with 40 CFR 401.17.)

2. Total Recoverable Oil & Grease (TROG) Monitoring. Alyeska proposes that the final permit specify that monthly monitoring for TROG continue using Method 413.2 (Freon extraction) until such time as the Alyeska supply of Freon is exhausted and then the requirement for TROG monitoring be sunsetted. This will provide for on-going monitoring for the next several years.

Of its own volition Alyeska re-instituted weekly TROG monitoring in 1998 using Method 413.2.

Over the past few years a substitute method (EPA Method 1664) was established by EPA as the replacement to Method 413.2. Method 1664 uses hexane for extraction. Alyeska states that although the method is similar to Method 413.2, there are significant differences in both the quantitative and qualitative aspects. Alyeska comments that Method 1664 is not an exact replacement for 413.2. In essence, the data generated using 1664 will have to be treated as a separate dataset. Alyeska also predicts that effluent monitoring using Method 1664 will rarely show results above the quantification limit of 5 mg/L.

Response: EPA generally agrees with Alyeska’s assessment of Method 413.2 versus Method 1664. For reasons clearly stated in the Fact Sheet, TROG monitoring will be required under the final permit on a monthly sampling frequency. TROG monitoring under the permit must be done using EPA approved methods. Alyeska should continue with Method 413.2 until their Freon supply is exhausted, at which time they should switch to substitute Method 1664.

3. Dissolved Inorganic Phosphorous, Ammonia, Total Recoverable Zinc and Density.

Alyeska proposes an alternative monitoring frequency for the four parameters as follows:

Ammonia and Phosphorous – Quarterly

Zinc – Semi-annually

Density – Monthly

Response: EPA agrees with Alyeska that a reduction in monitoring frequency from the previous and proposed permit is warranted. The final permit will reflect the frequency cited in the comment. Frequency reduction is warranted due to limited value from a facility operational purpose, lack of a reasonable potential for water quality standard exceedances from the discharge, and low variability of effluent concentration for these parameters. Continued monitoring at the reduced frequency, however, is important to track these parameters for water quality and dispersion modeling purposes.

4. Poly-Aromatic Hydrocarbon (PAH) Alkylated Homologs. Alyeska comments that the collection, analytical testing and reporting of alkylated homologs derived from the GC/MS SIM method is not technically justified, nor do comparative standards exist that are scientifically appropriate. Alyeska urges EPA and the Alaska Department of Environmental Conservation (ADEC) to reconsider the requirement and exclude effluent testing for alkylated homologs in the final permit as their relevance has not been verified.

Alyeska states that the GC/MS analysis method for “target PAHs” is a scientifically valid and technically defensible method. Individual PAH compounds are commercially available so accurate analytical standards can be prepared. Precision and accuracy statements can be made for each compound for the analytical method. Alyeska contends that the same is not true for the alkylated homologs.

Alyeska states that the results from the analysis by the procedure *Standard Operating Procedures for the Analysis of Petroleum Hydrocarbons in Seawater, Marine Sediments, and Marine Faunal Tissue at the Auke Bay Laboratory* for the alkylated homologs are estimated concentrations (semi-quantitative) because the response factors for the homologs are not known. Alyeska presents concerns regarding the precision and accuracy of the results: “... quantitation errors increase in magnitude the farther the compound elutes from the “parent response” analyte due to chromatographic mass discrimination. In complex matrices, summing the homologs based only on a single ion will bias the data high in most cases (grossly high in many).”

Aside from concerns regarding methods Alyeska also comments on how the information will be used: “The collection, analytical testing and reporting of alkylated homologs may provide additional information related to the Ballast Water Treatment Facility effluent but it is unlikely to create agreement on significance or relevance. Current regulatory thresholds and other reference sources for water quality and sediment criteria were based on concentrations of the parent PAH compounds and not on the presence of the alkylated homologs. ...It is apparent that source identification is not a focus of the current effluent or environmental monitoring programs. It is also highly unlikely that source identification will play a role in the future. As such, using source identification as a basis for the new monitoring does not appear to be supportable.” (RCAC also commented on PAH monitoring requirements. See comment number 15 of this document.)

Response to Comment 4 and 15: Based on comments received and review of available information, EPA has revised the PAH monitoring requirements of the draft permit. EPA will

require updated methods (EPA Test Method 625) in the final permit for target or parent PAHs. However, EPA will not require testing and reporting of alkylated PAH homologs as proposed. This decision to remove alkylated PAH homolog monitoring from the proposal is based on uncertainty regarding the reliability of quantified results and questions regarding the relevance of the additional information.

EPA Chemist Dr. Bruce Woods, Region 10 Technical Resources Group, has reviewed the comments received on the draft permit requirements regarding PAH monitoring (Memorandum dated 10/1/03, from Dr. Woods to Michael Lidgard, NPDES Permits Unit). EPA agrees that unsubstituted or parent PAH compounds are readily available as calibrations standard material for analytical methods and methods for their determinations are well established. However, EPA shares Alyeska's concerns with the proposal to measure C1-C4 alkylated PAHs since standards are not available for calibrating instruments in order to get reliable quantitative information. The response factors for the parent compound versus the alkylated PAH homologs vary drastically and are usually higher than for the parent PAH compound. The result of quantitative data reported using a parent PAH to calculate alkylated PAH homologs would be biased high. This calibration issue coupled with the challenge of analyzing a complex sample of marine water at expected alkylated PAH concentrations in the parts per trillion range (based on RCAC study results, "Evaluation of Mixing Zone and NPDES Permit Renewal Applications..." April 24, 2002, and 2001 Port Valdez Monitoring Program) presents uncertainty as to the reliability of detections at this low range and whether the results are real or false positives (measured as present, but not really present).

The RCAC study results further demonstrate challenges in measuring PAHs in the low part per trillion range. In the RCAC study results, the laboratory method blank contained various alkylated PAHs in the low parts per trillion. While the alkylated PAHs in the field samples appeared to contain different alkylated PAHs than the laboratory method blank, the total concentrations of alkylated PAHs in both the laboratory method blank and field samples were about the same, typically low parts per trillion. Similar total alkylated PAH results for field samples and method blank samples raises questions regarding the source of the alkylated PAHs.

Aside from the quantification issues there is also uncertainty raised by Alyeska's comment over how the data would be interpreted and its relevance to the monitoring goals of the permit. Current state standards and other regulatory thresholds such as criteria for sediment are based on concentration of parent PAH compounds. Measurement of alkylated PAH homologs would provide additional information, however, there would be no direct link of the results with any established criteria. EPA must consider the monitoring requirement in the regulatory context of the permit and how EPA might evaluate/interpret the monitoring results required by a permit. Given the lack of standard PAH alkylated homologs criteria, such data would be difficult to evaluate and would not provide an effective indicator of impact from the discharge. Due to consideration of the quantification uncertainty discussed previously and the lack of any applicable criteria for alkylated homologs, the proposed requirement to monitor monthly for alkylated PAH homologs has not been included in the final permit. Target or parent PAH

monitoring in effluent and sediments samples is continued with a requirement to use updated methods, EPA Test Method 625.

5. Method Requirements. A footnote in Table 2 of the draft permit specifies that sampling methods be used that minimize the volatilization and loss of VOCs in the effluent samples. Alyeska comments that they currently collect effluent samples in a manner consistent with minimizing the loss of VOCs and does not agree that this condition is necessary. Alyeska request EPA remove this condition from the draft Permit since there are already sufficient means to achieve the intent of the condition.

Response: EPA agrees with Alyeska comment and justification to remove the footnote. Footnote 3 of Table 2 has been removed from the final permit.

6. Permit Section I.A.3. Table 2, footnote 4. Footnote 4 of Table 2 of the draft permit specifies that PAH alkylated homologs shall be measured using comprehensive methods approved by EPA and ADEC, such as GC/MS SIM. Alyeska comments that they are not aware of an existing EPA or ADEC approved method for alkylated homologs. Alyeska states that this specific requirement is ambiguous and potentially unachievable. Alyeska requests that this condition be deleted from the Permit.

Response: The footnote has been removed due to revision in the alkylated homolog monitoring requirement (see response to comment 4).

7. Influent Sampling, Permittee Notice to Tankers, Scraper Pigs, Sludge Handling.

Alyeska comments that these requirements have not changed from the previous permit yet the fact sheet and State certification did not address them. Alyeska states that the basis for these requirements were originally developed from ADEC criteria and instituted under the State's certification authority. Alyeska states these conditions have limited value for treatment performance and questions whether EPA or ADEC have interest in continuing these requirements. If EPA and ADEC have no interest in the continuation of these conditions then Alyeska request that they be removed from the Permit.

Response: EPA and ADEC did intend to continue these requirements under the NPDES permit. ADEC has included authorization of these conditions in the final certification, therefore, the conditions will remain in the final permit as proposed.

8. Pollution Prevention Requirements

8a. Permit Section II.C.1.a.-e. Alyeska commented that these conditions were carried forward from the current permit but the permit has not been updated to reflect the current framework document. In order to reflect current conditions, Alyeska requests that II.C.1. a – e be deleted and replaced with the following text: *“The Permittee shall continue to maintain a Pollution Prevention Framework Program consistent with the Framework document submitted by letter to EPA and ADEC on June 12, 2000, Letter No. 00-15799. The Framework document shall be*

reviewed by the Permittee annually to ensure that its objectives, goals and priorities are current and effective. Any amendments to the Framework document must be submitted to EPA and ADEC, and EPA, in consultation with ADEC, shall have the right to disapprove the Framework within 60 days of receipt by the EPA and ADEC, after which time such changes shall be deemed approved, if neither agency disapproves them”.

Response: EPA agrees that items C.1.a-e have been addressed in the 2000 submittal. Continuation under the current framework document satisfy the conditions under C.1.a.-e., therefore, changes will be made to this section of the final permit as suggested. EPA’s intent is to continue to maintain the Framework Program with an annual review and the ability to amend the Framework following review by both EPA and ADEC.

8b. Permit Section II.C.2.a.(1)-(4). Alyeska states that these conditions carried over from the current permit have been satisfied and that specific task have been met. Alyeska submitted reports to EPA and ADEC in 1998 under letter No. 98-13098 and 98-13812 to satisfy the conditions. Alyeska requests that these conditions be deleted from the final Permit.

Response: Correspondence from Alyeska in 1998 and EPA’s response in 1999 both discuss the feasibility of a monitoring program to continuously analyze oil at the Dissolved Air Flotation (DAF) treatment process and at the discharge end of the ballast water treatment facility. Although the conditions (1)-(4) have been satisfied and will be removed from the permit, EPA and DEC will continue to follow the progress of the monitoring projects through annual pollution prevention reports.

8c. Permit Section II.C.2.b. Paragraph 2.b. requires a pollution prevention report analyzing the efficiency of the design and operation of current ballast water treatment (BWT) treatment processes. Alyeska commented that “Paragraph 2.b. is not only inappropriately placed under pollution prevention, but also is neither technically necessary, nor supported by underlying regulatory authority.” Alyeska commented that the draft condition is an evaluation of the internal operation of the facility and is clearly not pollution prevention as that term is contemplated by both EPA and ADEC. “There is no supporting regulatory authority to support this work as pollution prevention. Furthermore, the facility’s consistent compliance record demonstrates that the evaluation proposed by paragraph 2.b. is not warranted. Alyeska comments that they believe this provision should be removed from the NPDES Permit.

Alyeska will be addressing the concerns about future plant operations and ballast water flows expressed in the draft permit through an engineering and operational review of the BWT process by the Alyeska Strategic Reconfiguration effort now ongoing for the Pipeline and Terminal.

Response: This section of the draft permit was an effort to require the Permittee to evaluate changes that are occurring at the facility including a reduction in crude oil flow, changes in the volume of ballast water treated, and physical changes in the crude oil. The draft permit included a requirement to analyze anticipated changes which could effect treatment effectiveness. EPA agrees that this is not pollution prevention as typically contemplated by EPA. During a site visit

to the facility during the public comment period and through formal comments submitted by Alyeska, EPA was made aware of Alyeska's Strategic Reconfiguration Effort. This effort, recently undertaken by Alyeska, includes analysis of the anticipated changes highlighted in the draft permit. Alyeska expects the next NPDES permit cycle will reflect revisions at the facility to address the anticipated changes. The one year requirement of the draft permit to evaluate the changes has been removed from the final permit since Alyeska is undertaking the Strategic Reconfiguration Effort.

9. Best Management Practices. Section II.E.9.a-d of the draft permit includes new BMP requirements. Alyeska believes the conditions are "...counter to the fundamental precepts of NPDES permitting." Alyeska believes that EPA already has more than adequate oversight and authority to ensure that effluent limits and other permit conditions are met. Alyeska is also concerned that the draft BMP permit terms are vague and will create potential compliance questions.

Alyeska requests that these conditions be deleted from the final Permit because they are "unnecessary, vague and not properly supported by regulatory authority." Alyeska provided comment on each of the four conditions as summarized in comments number 9a. through 9d. below.

Response: Best Management Practices (BMPs) are actions or procedures designed to prevent or minimize the generation of pollutants, their release, and potential release to the surface waters of the United States. BMP Plans can include almost any pollution control measure or practice that controls the generation of pollutants and their release to surface waters.

Pursuant to Sections 304(e) and 402(a)(1) of the Clean Water Act (CWA), BMP Plans may be included as conditions in NPDES permits. The primary authority to place BMP Plan requirements in NPDES permits is Section 402(a)(1). Section 402(a)(2) authorizes EPA to include miscellaneous requirements in permits on a case-by-case basis which are deemed necessary to carry out the provisions of the Act. EPA promulgated regulations which provide for BMPs to be used "to control or abate the discharge of pollutants when... numeric effluent limitations are infeasible...or... the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA" (40 CFR 122.44(k)(2) and (3)). BMPs may be used under the authority of Section 402 to supplement numeric effluent limitations as necessary to protect water quality.

BMPs are placed in permits in two ways: 1) BMP Plans and, 2) site or pollutant-specific BMPs. Site-specific BMPs may be imposed as specific requirements of the BMP Plan or as independent conditions of the permit. Development of a BMP Plan by a permittee can be required in an NPDES permit.

9a. The Permit states: *The permittee shall maintain the facility's three gravity-separation (90's) tanks in accordance with their design specifications and treatment efficacy.*

Alyeska states that the number of gravity separation tanks designed and installed at the BWT was determined by equalization capacity (i.e. the amount of storage required to equalize influent ballast from the tankers to downstream process units). Alyeska contends this parameter is best left to the judgement of the operator as to how much capacity is needed to regulate flow rates in order to meet discharge limits. "Alyeska contends that by including requirements for equalization capacity, it imposes an unfair economical burden when the plant discharge has always met state water quality standards and those standards can still be met with lower equalization capacity. BWT Plant effluent BETX concentrations over the past 6 years have demonstrated 100 % compliance with effluent limitations during periods of a 2 tank operation (along with reduced settling times)."

Response: The effluent limitations in the permit, particularly the flow limitation and the mixing zone dimensions, were based in part on the facility's three gravity-separation tank design as specified in the NPDES permit application. Not maintaining the three tanks would be a significant change to the treatment system. During the development of the draft permit, there was consideration by the company of removing a tank from service.

During a recent site visit the Alyeska representative stated that they were not considering decommissioning a tank in the immediate future. If one of the three tanks was to be decommissioned, EPA believes this would be cause for permit modification. EPA regulations state that a substantial alteration to the permitted facility or activity would be cause for modification (40 CFR122.62(a)(1)) and EPA would request an updated application. If a permit modification request occurred, ADEC would also request revised engineering plans and conduct a review of the proposal. "Any alterations, modifications and/or major changes in operating procedure to the wastewater treatment systems at the BWTF require ADEC plan approval under 18 AAC 72.600" (ADEC 401 Certification). The plan review would consider the design criteria associated with the reduced area available for oil/water separation in the 90's tanks. The throughput capabilities of the treatment system would be reduced and the flow limit of the NPDES permit would require reevaluation as would the current mixing zone dimensions as certified by ADEC.

Reducing the treatment from a three tank to a two tank system would require an updated permit application and trigger ADEC plan review, ADEC mixing zone reevaluation, permit reevaluation and potential permit modification. As such, a BMP specifying three tank operation is not necessary at this time.

9b. The Permit States: *The permittee shall insure that the ballast water is retained in the gravity-separation (90's) tanks for minimum treatment duration of four (4) hours.*

Alyeska agrees that settling time is a factor in 90's tank treatment effectiveness but contends that the residence time required to meet specifications for the DAF influent are much less than 4 hours. Alyeska presented results of operation for a 16 month period where three tanks were operational to the results of the following 13 months when two tanks were operational. The analysis looked at settling times during the period and oil/grease concentrations in water leaving

the 90's tanks. The data shows that settling time less than 4 hours will result in similar oil and grease concentrations as longer settling periods.

“These results clearly demonstrate that operation of the BWT facility with two 90’s tanks and settling times less than 4 hours is a reasonable aspect of plant operation, especially in light of the decline in ballast receipts projected through 2008 and beyond. This analysis also demonstrates that there is no reason from a regulatory (or operational) standpoint to impose requirements on storage capacity or minimum settling times. These results clearly suggest that operation of the BWT facility with only two 90’s tanks.”

The BWT facility does have a procedure that allows for a less than 4-hour settling time, which in part reads as follows: “The Lead Operator may authorize a settling time of less than four hours, provided that the oil and grease level does not exceed 80 parts per million (ppm). However, no charge will be made to the DAF system with less than two hours of settling.”

Response: EPA and Alyeska agree that settling time is an important aspect of the treatment process. Proper management of residence time is necessary to achieve the effluent limits. Adequate residence time became a concern during the previous permit term due to the following factors, all of which have potential to reduce residence time: consideration to decommission a 90's tank, a 90's tank being out service for extended period due to maintenance (13 months), and oil skimming problems within the tanks which resulted in increased oil volumes in the tanks (discussed below). As a result of these operational issues, EPA believes it is reasonable to require a BMP requirement under the BMP Plan to address settling time. The data provided by Alyeska during the comment period demonstrates that residence of less than 4 hours is at times sufficient to meet the specifications for the DAF influent. EPA agrees that the 4 hour requirement of the draft permit is not necessary under all circumstances and may unreasonable restrain operations. EPA believes that the following procedure currently contained in the Alyeska BMP Plan is adequate to address residence time: “The Lead Operator may authorize a settling time of less than four hours, provided that the oil and grease level does not exceed 80 parts per million (ppm). However, no charge will be made to the DAF system with less than two hours of settling.” Section II.G. of the permit requires the permittee to report to EPA and ADEC in writing, any changes to the BMP Plan. EPA and ADEC have the right to disapprove any changes within 60 days. As a result of the residence time procedure in the current BMP Plan, the residence time requirement of the draft permit is not necessary at this time and has been removed from the final permit.

9c. The Permit states: *The Permittee shall develop and implement effective oil skimming treatment that is adapted to deal with changes in the nature of the separated oil contained in the gravity-separation (90s) tanks.*

Alyeska states that the requirement to install new capital equipment is not supported based upon

effluent data and ongoing management of the skimming system. There has been no instance of non-compliance nor any indication that suggest non-compliance is imminent. Therefore, Alyeska requests that this condition be deleted for all of the above reasons and because it is arbitrary and capricious.

Response: It is recognized by Alyeska and regulatory agencies that there was an oil skimming problem in the 90's tanks in 2003. Correspondence from Alyeska recognized that wax from the oil was in the tanks and was routinely obstructing skimming operations. In short, chunks of oil were clogging the pipe resulting in shut down of skimming. This resulted in more oil residing in the 90's tanks decreasing storage capacity. With one tank of three tanks already out of service this increased the concerns over compliance with permit limitations, although, as clearly pointed out by Alyeska, compliance was maintained. Potentially, skimming related problems may reduce efficiency of the treatment system.

Proper skimming is a necessary practice to achieve effluent limits and to carry out the purposes and intent of the CWA. With consideration of the wax and oil skimming problem and the necessity of proper skimming to achieve effluent limits, EPA believes it has authority to include a BMP pertaining to skimming in the permit if necessary.

During an EPA site visit after draft permit issuance, Alyeska representatives made EPA and ADEC aware of ongoing investigation into the skimming problem, evaluation of options to address the problem, and ongoing test of alternative solutions. During the past 12 months since issuance of the draft permit, Alyeska has installed a new skimmer and is evaluating its effectiveness. Alyeska is in the process of upgrading the tanks with new skimmers. Compliance has been maintained throughout this upgrade. EPA and ADEC will continue to monitor the progress of the upgrade and compliance with permit limitations. Due to Alyeska's management of the skimming process over the past year, the draft BMP is not necessary at this time and is not included in the final permit.

9d. The Permit states: *The Permittee shall maintain the facility's two crude oil recovery (80s) tanks in accordance with their design specifications and treatment capacity.*

"The 80's tanks are the first component of the recovered crude process and as such are ancillary to ballast water treatment process. Their purpose differs in operation from the 90's tanks in that they are considered upstream components to the 90's tanks and are not providing wastewater treatment as a primary treatment process component." Alyeska states that the proposed BMP does not characterize the 80's tanks appropriately and request the provision be deleted.

Response: Although the CWA allows BMPs for activities which are associated with, or ancillary to, the manufacturing or treatment process, a BMP to maintain two crude oil recovery tanks is not necessary at this time.

10. Environmental Monitoring Dates. Alyeska request that the dates specified for the annual environmental monitoring program should be August-October in order to allow for flexibility in

scheduling with the contractors.

Response: EPA agrees that this suggestion will have no impact on the integrity of the program or the quality of the data. EPA will revise the final permit accordingly.

11. Environmental Monitoring Sediment Chemistry. The new requirement of the draft permit to require hydrocarbon analyses using GC/MS - SIM for sediments poses challenges and questions for Alyeska which are presented in their comments. Alyeska raises a number of issues related to the reporting of the PAH alkylated homolog component in the sediments including how the results would be compared to existing benchmarks. Alyeska states that the current benchmarks for comparison of sediment hydrocarbons concentrations are not based on measures that include alkylated homologs as a component of the PAH analysis. Alyeska also questions how the new method meets the objectives of the monitoring program stated in the permit.

Alyeska also states that “using the data which combines the concentration of alkylated homologs with the parent compounds would unfairly bias the results making comparisons to NOAA, State of Washington and EPA sediment criteria unrealistic. The alkylated homologs would have to be treated independently from the parent compound to maintain consistency with the standards and past practices and this would only serve to complicate the issue.”

For the reasons cited in the comment letter Alyeska recommend that EPA not include the alkylated homologs as part of the GC/MS SIM method for marine sediment hydrocarbon analysis.

Alyeska also commented on the requirement to compare sediment hydrocarbon analyses to “accepted published levels of acceptable PAH concentration in marine sediments.” Alyeska states that values may be compared to any published guideline values but the permit should not assert that the values represent “accepted” levels of PAH concentrations. By requiring Alyeska to compare results to what they believe are not meaningful criteria, they comment that there implicitly endorse the applicability of the guidelines by preparing a comparison to the sampling results. Alyeska suggest that the last paragraph on page 25 be deleted and replaced with the following -

“EPA and ADEC may compare the results of sediment hydrocarbon analyses with various published Sediment Quality Guidelines.”

Response: EPA agrees that the requirement to monitor and report alkylated homologs for sediment chemistry would present a number of issues as outlined in Alyeska’s comments. For the reasons provided in response to comment 4 above, namely method challenges and use of the sample results, EPA is removing the alkylated homolog requirement from the final permit. The final permit will require the use of an updated test method for the parent PAH analysis (EPA Method 625).

EPA does not agree with the suggestion to remove the paragraph of the sediment chemistry section which requires results from the sediment hydrocarbon analyses to be compared to historic values and to other sediment criteria. EPA believes the comparisons are useful in the report for perspective not only to EPA but to other interested parties, particularly those without access to the historic data under this program nor to any type of sediment criteria. The requirement to offer the comparison in the report has been a useful element of the report and is retained in the final permit. However, EPA agrees that the term “accepted published levels of acceptable PAH concentrations in marine sediments” is likely not an appropriate reference to guideline values. EPA will reword the requirement to “...compared to historic Port Valdez values and published guidelines which may include EPA’s draft Sediment Quality Criteria....Effects Range-Medium criteria (Long and Morgan, 1990; Long 1992).”

12. Due Dates for Reporting. The due dates for the Environmental Monitoring report and data have been changed from July 15 to June 15 without any explanation provided in the Fact Sheet. The current process for creating, editing, reviewing and approving the report is based on the July 15 due date. It would be preferred to keep the July 15 date if there are no overriding concerns about this issue.

The Draft Permit stipulates that the QA plan for the permit be submitted within 45 days of the effective date of the permit rather than the current 60 days. We propose that the 60 day requirement be retained in the final permit to account for the additional signatures required by ADEC personnel.

The due date for the monthly DMR has been changed from the 15th of the month to the 10th and there is no corresponding reason identified in the fact sheet.

Response: All three of these suggestions will be incorporated into the final permit in order to retain consistency with the previous permit. The dates included in the draft permit reflect standard Region 10 policy which can be adjusted on a case by case basis.

13. Reporting Requirements for Construction/Maintenance Activities. Alyeska comments that this requirement to report dates and times of abrasive blasting projects is not addressed in the Permit Fact Sheet nor the State’s Certificate of Reasonable Assurance. Alyeska is not clear on the basis for this reporting and proposes that this section be deleted from the final Permit.

Response: EPA and ADEC intend to retain the requirement from the previous permit. ADEC has included the requirement and the rationale in the final state certification, therefore, the requirement is included in the final permit.

Comments Submitted by the Prince William Sound Regional Citizens Advisory Council (RCAC). (See “Public Comment Regarding the Draft NPDES Permit BWTF at Alyeska Marine Terminal”, June 3, 2003, for complete documentation of each comment summarized below.)

14. Include an explicitly-stated objective “to reduce alkylated-PAH loadings to Port Valdez” because of their predominance in the BWT effluent and the fact that LTEMP data suggest they are accumulating in selected components of the ecosystem.

Response: Section I of the permit authorizes the discharge “subject to the restrictions set forth herein.” Under the BMP and Pollution Prevention requirements of Section II, “...the Permittee shall prevent or minimize the generation and the potential for release of pollutants from the facility to the waters of the United States.” Also, Section II.B.1. “The number and quantity of pollutants generated and potentially discharged from the facility to waters of the United States shall be minimized by the Permittee to the extent technically and economically feasible.” Additional permit language to reduce select parameters is not warranted.

15. Specify PAH monitoring using SIM GC/MS methods for the following list of analytes.

Table 1. Suggested PAH Analytes (compounds with an asterisk (*) denote EPA Priority Pollutant PAHs:

Naphthalene*	Fluoranthene*
C1-Naphthalene	Pyrene*
C2-Naphthalene	C1-Fluoranthene/Pyrene
C3-Naphthalene	C2-Fluoranthene/Pyrene
C4-Naphthalene	C3-Fluoranthene/Pyrene
Biphenyl	C4-Fluoranthene/Pyrene
Acenaphthylene*	Benzo(a)Anthracene*
Acenaphthene*	Chrysene*
Fluorene*	C1-Chrysenes
C1-Fluorenes	C2-Chrysenes
C2-Fluorenes	C3-Chrysenes
C3-Fluorenes	C4-Chrysenes
Dibenzothiophene	Benzo(b)fluoranthene*
C1-Dibenzothiophene	Benzo(k)fluoranthene*
C2-Dibenzothiophene	Benzo(e)pyrene
C3-Dibenzothiophene	Benzo(a)pyrene*
C4-Dibenzothiophene	Perylene
Anthracene*	Indeno(1,2,3-cd)pyrene*
Phenanthrene*	Dibenzo(a,h)anthracene*
C1-Phenanthrene/Anthracene	Benzo(g,h,i)perylene*
C2-Phenanthrene/Anthracene	Total PAH
C3-Phenanthrene/Anthracene	
C4-Phenanthrene/Anthracene	

Analytical procedures that are appropriate for these alkylated PAH measurements have been widely published (Sauer and Boehm 1991, 1995; KLI 1995, Boehm et al. 1997; Short and Harris 1996; Stout et al. 2001, 2002) and cited in the Federal Register (Federal Register 2003).

Because selected ion monitoring GC/MS procedures will be used on the sediments for the first time in the AEMP, it is unlikely that the data collected will be directly comparable to the older data generated by FID-GC methods. As a result, the 95 percent confidence interval approach specified in the permit may not work, and we recommend analyses of all three replicates of sediments (and any infaunal tissues) collected as part of the monitoring program.

Response: EPA's response to comment 4 represents EPA position regarding alkylated PAH monitoring requirements of the final permit. Please see page 3-5 of this document for a response to RCAC's request to use SIM GC/MS methods.

16. For TAqH, the BTEX and PAH components should be measured by EPA Methods 624

and 625 (based on GC/MS analyses), respectively, rather than the antiquated Methods 602 and 610. The list of analytes for the Method 610 (625) analyses should be expanded to include all the alkylated PAH analytes noted above. TAqH monitoring should occur four times per month, particularly in winter, when the Fact Sheet notes there was a lack of historical TAqH data. In addition, the more frequent measurements are necessary to quantify contaminant levels that are limited only at the edge of the mixing zone (which cannot be easily sampled), and they should be continued until an adequate database is established with the new techniques.

Response: EPA agrees with the comment regarding updating methods and the final permit will reflect the requirement to use Methods 624 and 625 (see also response to comment 4 above). Alkylated PAH analytes monitoring will not be included in the final permit as discussed in response to comment 4 above. TaqH monitoring at a frequency of monthly shall be retained. This is a continuation of the frequency from the previous permit which has proven to be adequate for characterization purposes.

17. Reinitiate *Mytilus* sampling (similar to the PWSRCAC's LTEMP approach) into the monitoring suite to assess surface transport, particularly at far field locations. The previous chemistry analyses using the older methods were inadequate to ascertain the BWTF signature, and the decision to drop that aspect of the program was ill-founded. Surface waters and intertidal exposure are aspects of the ecosystem currently being ignored.

18. Initiate a reconnaissance program to identify other intertidal sites that support ambient mussel populations that could be used to obtain a wider geographic evaluation of intertidal contamination within the Port. Because there are only data from three sites (AMT, Gold Creek, and Anderson Bay) with no information on transport processes or geographic fate, there may be other areas receiving more concentrated levels of pollutants.

19. Evaluate other potential receptor species. The current program is limited to one species and one population. Periodic assessment of hydrocarbon exposure in other species would monitor other pathways within the foodweb. The exposure of intertidal deposit feeders, particularly *Macoma balthica*, is of high ecological significance.

Response to comments 17, 18, and 19: Mussel monitoring was discontinued in the previous permit cycle. The following excerpt is from the Fact Sheet supporting the 1997 permit:

“Caged Mussels. Caged mussel monitoring has been discussed extensively at BWT Working Group meetings. In part as a result of those discussions, EPA is not proposing to include a caged mussel monitoring requirement in the draft permit. The abundant environmental monitoring data collected to date has not revealed significant environmental problems in Port Valdez (BWT Work Group, 1995). Also at issue is the uncertainty of whether a caged mussel study would produce meaningful results given the deep, cold water near Outfall 001 (this is not typical mussel habitat). Given these concerns, EPA does not believe that a caged mussel monitoring study is warranted as a permit requirement at this time. This position was agreed upon at the BWT Work Group meeting on March 27, 1996 (BWT Work Group, 1996). EPA understands that RCAC

may independently conduct a caged mussel study in Port Valdez in cooperation with Alyeska. Results of such a study will be evaluated, if available, prior to finalization of this permit.”

The following excerpt was included in both the 1997 and 2003 Fact Sheets:

“Tissue hydrocarbon monitoring using *Mytilus edulis* collected at stations in Port Valdez was required under the 1989 permit because the sedentary filter feeder has been shown to accumulate water-borne pollutants. The objectives of the monitoring were to determine whether hydrocarbon levels in tissues of the intertidal filter feeder were changing. Sampling was done in the springs of 1990, 1991, 1992, 1993, 1994, and 1995; and in the falls of 1989, 1990, 1992, 1993, 1994, and 1995. Shaw et al. (1996) report that the types and concentrations of hydrocarbons detected in Port Valdez mussels indicate that biogenic (rather than petroleum) hydrocarbons are the major contributor. Temporal and spatial comparisons of hydrocarbon concentrations in mussels did not show significant differences. Shaw et al. (1995 and 1996) concluded that mussel tissue hydrocarbon data are less useful than sediment hydrocarbon data due to the high variability of non-petroleum hydrocarbon concentrations in mussels from Port Valdez.”

RCAC published “Assessing Transport and Exposure Pathways and Potential Petroleum Toxicity to Marine Resources in Port Valdez, Alaska”, December 2001 (Payne et al.) The report had a number of objectives including comparison of measured total PAH levels in mussels against concentrations known to cause effects within bivalve populations and comparison of measured TPAH concentrations in sediments against published screening values that represent threshold concentrations for adverse effects. Mussel and sediment data from 1993-2000 was reviewed. From the abstract of the report: “Review of the data from a long-term hydrocarbon-monitoring program at the Alyeska Marine Terminal and a nearby control site suggests Alaska North Slope (ANS) crude oil residues from the terminal’s ballast water treatment plant (BWTP) have accumulated in the intertidal mussels within the port. Fortunately, the polynuclear aromatic hydrocarbon (PAH) and saturated hydrocarbon (SHC) levels measured in sediments and mussel tissues and the estimated water-column levels are low and unlikely to cause deleterious effects.” The abstract goes on to discuss transport and exposure pathways and discussion of a possible surface microlayer mechanism.

Given the results of extensive monitoring from 1989-2000, EPA does not believe that a caged mussel monitoring study is warranted as a NPDES permit requirement. Monitoring of the effluent, whole effluent toxicity testing, sediment chemistry, and benthic abundance and community structure requirements of the permit are continued in order to assess potential adverse impacts.

20. Collect additional environmental parameters that would help to better understand the variance in infaunal populations (also suggested by the AEMP investigators). “Reproductive success and subsequent larval stages of benthic organisms, and survival of recently recruited individuals on the bottom are dependent to a large extent on food availability. Monitoring environmental parameters (temperature, salinity, primary productivity, phytoplankton pigment

accumulation within sediments and total annual carbon flux to the bottom) would improve the understanding of interannual fluctuations in community structure. Lack of such data throughout the years has made it difficult to interpret faunal changes. Addition of some of the parameters noted above, in particular, phytoplankton flux to the bottom and annual carbon flux to the bottom, is highly recommended for future surveys.” (AEMP Final Environmental Report, 2000).

Response: The EPA and ADEC have determined that the collection of additional environmental parameters is not necessary to meet the Environmental Monitoring objectives contained in Section III.B.2 of the draft permit. Although collection of additional information above the parameters currently monitored is generally desirable, it is not deemed to be necessary to adequately address the Environmental Monitoring objectives. Recent consultation with the principal investigators was considered prior to making this determination.

21. Analyze infaunal tissue samples for oil accumulation. Only with such analyses can the issues of exposure and source identification be addressed.

Response: ADEC consulted with the principal investigators regarding this comment. A primary concern raised by investigators was that analyzing the tissue samples for oil accumulation would be impractical due to the additional amount of fauna that would need to be collected. Oil concentrations are expected at such low levels that volume of tissue sample would necessarily be very high. EPA also has concerns with limitations of the methods that would be used to detect at low levels and the ability to conduct source identification as discussed in response to comment 4 of this document.

22. Require sampling and chemical analysis of any oil observed in infauna grab samples. Currently, if oil is present in infauna grab samples, it is noted but not analyzed. This information is critical to understanding impacts to infauna.

Response: EPA and ADEC determine that noting the observation of oil as required under the existing permit is adequate. The issues raised in response to comment 21 are also applicable to comment 22 regarding volume of infauna and test methods. If oil is observed EPA can also adjust the monitoring per Section III.B.10. of the permit. Two replicate sediment samples at each station are archived and also available for analysis should hydrocarbon levels be found to be elevated.

23. De-emphasize the hypothesis testing in consultation with EPA and ADEC, and use only as necessary (also suggested by the AEMP investigators); a plethora of nonessential hypothesis results tends to obscure the relevant findings. The multivariate approaches used by Feder and Blanchard (Shaw et al. 2000a,b) are modern, appropriate and flexible in addressing pertinent issues. Also, when the updated chemistry data become available, rather than being limited to the NPDES specified list of secondary oiling indicators, analysts should be allowed to derive their own set of pertinent parameters.

Response: After consultation with the principal investigators, EPA determines that the

environmental monitoring objectives contained in Section III.B.2 and procedures of the draft permit provides investigators sufficient flexibility to choose the methods for analysis of the environmental monitoring data that they feel is most appropriate. By requiring more specific methods the investigators believe that they would lose the flexibility to use updated techniques.

24. Change WET monitoring requirements to more sensitive and relevant endpoints, including quarterly echinoderm or bivalve development tests and annual mysid chronic tests. Additionally, statements in the Fact Sheet regarding WET should be revised to more accurately reflect the periodic toxicity of the effluent, and the potential for violation of the toxicity criterion should be re-assessed.

Response: The background section of the fact sheet listed a table summary of all the WET testing results from 1997 -2002. The summary section states that the tests demonstrate that the Alyeska BWT effluent exhibits low toxicity. The permit condition section of the fact sheet demonstrates that there is no reasonable potential for WET to violate the Alaska Water Quality Standards at the edge of either the chronic or acute mixing zones.

EPA does agree with PWSRCAC comment and with previous recommendation that other endpoints that may be more relevant for this discharge should be investigated. The commenter states that the current chronic test does not adequately assess the chronic toxicity of the effluent because the duration of exposure to effluent is 40 minutes. The commenter is also concerned that only toxicity to sperm and eggs is assessed, rather than determining the developmental toxicity to larvae. The commenter suggest a change to one of the longer-term bivalve or echinoderm developmental EPA tests. The commenter states that these tests would evaluate larval survival and development for a longer duration of exposure than the current fertilization tests.

With the existing test showing generally low toxicity, EPA feels it is appropriate to adjust the existing test requirements. EPA believes the existing quarterly chronic testing and annual acute test frequency is appropriate to continue with consideration of the effluent characterization and volume. As stated above, EPA agrees with the recommendation to introduce a new test to evaluate an alternative endpoint. EPA also determines that there is value to continuing existing test procedures to some degree to maintain the relationship to the historical data base that has been developed. The final permit, therefore, replaces two of the quarterly echinoderm fertilization tests conducted each year with a longer-term bivalve embryo-larval development test. The other two quarters in the calendar year will require the current fertilization test and the annual acute test will also be retained.

Replacement of two quarterly test per year with the larval development test will provide a more complete assessment of whole effluent toxicity of the discharge while assessing a different endpoint. Continuing testing with the fertilization test maintains the established historical record that has been established and provides ability to continue to track trends for the toxicity endpoint.

25. Assess the level of concentration and magnitude of transport from surface microlayers. Results from Payne et al. (2001) demonstrate chronic seasonal shallow (most likely, surface) transport across the Port. There is a data gap regarding the confirmation and magnitude of this process.

Response: Section III.B. of the permit states the objectives of the environmental monitoring program and include: ensure compliance with Alaska Water Quality Standards, determine statistically significant and ecologically significant changes in the sediment hydrocarbon concentrations over time and distance due to the BWT discharge, and determine changes to the biota of subtidal Port Valdez. Annual reports show that the objectives are met through monitoring of the effluent, whole effluent toxicity testing, monitoring of sediment chemistry, and benthic abundance and community structure monitoring requirements of the permit. All of these requirements are continued in the final permit in order to continue to assess adverse impacts. The EPA and ADEC have determined that the collection of additional data is not necessary to carry out the Environmental Monitoring objectives.

26. Initiate a one-time study that incorporates a conductivity-temperature-depth (CTD) profiler to identify the overall depth and structure of the water column and possibly a submersible fluorometer to better define the BWTF effluent plume. Then confirm its presence and PAH concentrations during stratified and nonstratified oceanographic conditions outside the mixing zone by more detailed chemical analyses of discrete filtered 3 L grab samples at specific depths suggested by the CTD and fluorometer data.

Response: After consultation with the ADEC it has been determined that the mixing zone study conducted during the 1997 NPDES permit renewal, in conjunction with the effluent and environmental monitoring results, reasonably demonstrates that the Alaska Water Quality Standards are met at the edge of the mixing zone. The applicant has applied for the same effluent flows as were permitted in the 1997 NPDES permit. The ADEC believes that ongoing effluent and environmental monitoring as proposed in the draft permit are appropriate for determination of compliance with the Alaska Water Quality Standards.

27. Include TSS measurements after stripper use in the monthly average if the volume of effluent associated with that use exceeds some appreciable percentage of total effluent volume discharged during the month as agreed upon between EPA and Alyeska.

Response: The fact sheet (pages 30-31) describes development of TSS limitations and potential short-term bursts of high TSS concentrations when the strippers are turned on after a period of non-use. The monthly average does not include TSS measurements within 24 hours after stripper use. After review of the issue, EPA continues to believe this is appropriate and no modification is made to the final permit. The strippers were used very infrequently during the previous permit cycle. EPA will continue to monitor stripper use and TSS measurements.

28. Require TROG monitoring on a weekly rather than monthly basis. Weekly monitoring would provide a database with better resolution to correlate TROG discharges with changes in

BWTF operations and changes in crude oil composition.

Response: TROG is a new monitoring requirement added to the permit to gather information as described in the fact sheet. Monitoring on a monthly basis is adequate and will provide an adequate data base during the life of the permit in order to assess at the next permit issuance.

29. Establish an effluent concentration limit for TROG since limits exist at similar industrial facilities and Alyeska has demonstrated its ability to manage TROG levels.

Response: The current Alaska Water Quality Standard (18 AAC 70.020(b)(20)) for floating solids, debris, sludge, deposits, foam, scum, or other residues (which includes oil and grease) is a narrative standard. The most stringent standard under 18 AAC 70.020(b)(20) is as follows: "[The discharge] May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use, or cause acute or chronic problem levels as determined by bioassay or other appropriate methods. May not, alone or in combination with other substances, cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines." Since 18 AAC 70 is a narrative standard the narrative from the standard is included in the final permit. ADEC, through the final 401 certification, requires that appropriate language is contained in I.A.4 of the final NPDES permit to insure that the uses in Port Valdez are protected. There is no numeric criteria for oil and grease in Alaska Water Quality Standards. There is no federal technology-based effluent limitation for TROG for this industrial sector.

30. Require that all reports submitted to EPA and ADEC also be submitted in a commonly accessible digital format.

Response: Section III.B.8. requires the permittee to submit environmental monitoring data to EPA and ADEC in electronic format. Monthly effluent data is submitted to EPA which EPA enters into the national Permit Compliance System data base which is then available in digital format.

31. Require that all reported data be accumulated and maintained in a quality-assured, commonly accessible, computer database and that this database be made available to regulators upon request.

Response: Section III. of the permit, Monitoring, Recording, and Reporting Requirements, provides EPA adequate authority to obtain data from the permittee as necessary.

32. We recommend that a series of independent QA/QC audits be undertaken to ensure compliance by all in-house and contract laboratories used by Alyeska's Environmental Monitoring Program to ensure that proper laboratory methods and protocols are being followed in compliance with the data quality objectives specified in the Alyeska QA Plan.

Response: EPA and ADEC recognizes this recommendation from RCAC and will take it into consideration when setting audit priorities within the region.

Comments Submitted by the National Marine Fisheries Service (NMFS) (see letter to EPA from Mr. James W. Balsiger, Administrator, Alaska Region, dated June 18, 2003).

The NMFS offered comments in consideration of section 7 of the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the fish and Wildlife Coordination Act (FWCA) and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). The comment letter included the following statement which is a summary of the fishery resources of NMFS concern in Port Valdez: "Port Valdez supports a great diversity and abundance of wildlife including marine mammals and important commercial and recreational species of fish. Marine mammal species in Port Valdez include several species of smaller whales, porpoises, and seals. However, harbor seals are more frequently observed near the project area. Steller Sea Lions also frequent the nearshore waters of Port Valdez, and are listed as endangered under the Endangered Species Act." The comment letter also recognized that Port Valdez contains Essential Fish Habitat (EFH) for a number of federally managed species and important commercial and recreational species.

33. The NMFS commented that the fact sheet should have identified PAH on the list of discharge constituents for outfall 001.

Response: The fact sheet listed the conventional, non-conventional, and toxic pollutants believed to be present in the treated ballast water discharge. Under toxic pollutants, metals and BETX pollutants believed to be present were listed, however, PAHs were not listed. EPA agrees with the commenter that PAHs should have been listed as present. Total Aqueous Hydrocarbons have been monitored and reported monthly to EPA during the existing permit cycle. Although not listed as a discharge component on page seven of the fact sheet, the data was considered and evaluated as part of the permit reissuance. PAH's are discussed under the Specific Permit Conditions, BWT Discharge section of the fact sheet.

34. The NMFS commented that the following study should be recognized and considered by EPA as part of the information available for background on environmental monitoring: "Salazar, M.H., Short, J.W., Salazar, S.M., and Payne, J.R. 2001. Final Report, 2001 Port Valdez Monitoring, Contract No. 633.01.1 Prince William Sound Regional Citizens Advisory Council, P.O. Box 3089, Valdez, Alaska 99689"

Response: EPA appreciates the comment from the NMFS and recognizes the 2001 Port Valdez Monitoring Report. The RCAC comments cited above also referenced results of the 2001 Monitoring Report. The report was considered by EPA when addressing the extensive comments received regarding the monitoring provisions of the draft permit.

35. The NMFS asked the question of when national effluent limitation guidelines will be published for this industrial sector.

Response: EPA is reviewing the effluent guidelines development plan under Section 304(m) of the Clean Water Act. Development of effluent guidelines for shore-based reception facilities like the Alyeska facility will be considered under the planning process. However, considering that so few facilities in the U.S. would fall under this category (Alyeska is believed to be one of three such facilities), it is unlikely that EPA will be issuing effluent guidelines for this sector in the near future. As described in the fact sheet, for those industrial facilities where EPA has not yet developed effluent guidelines, permit conditions must be established using Best Professional Judgement (BPJ) procedures.

36. The NMFS provided a conservation recommendation that EPA “consider cumulative impacts of the discharges as well as other discharges into Port Valdez, and assure that the permittee is using state-of-the-art technology for collecting monitoring data for analyses.”

Response: Section III.B. of the permit states the objectives of the environmental monitoring program and include: ensure compliance with Alaska Water Quality Standards, determine statistically significant and ecologically significant changes in the sediment hydrocarbon concentrations over time and distance due to the ballast water treatment (BWT) discharge, and determine changes to the biota of subtidal Port Valdez. Annual reports show that the objectives are met through monitoring of the effluent, whole effluent toxicity testing, monitoring of sediment chemistry, and benthic abundance and community structure monitoring requirements of the permit. All of these environmental monitoring requirements are continued in the final permit in order to continue to assess adverse impacts. To some extent, the monitoring of sediments and biota in Port Valdez required by this permit, and the determination of compliance with water quality standards, do capture cumulative impacts of the ecosystem, however, the primary purpose of the permit monitoring requirements is to assess the BWT discharge. Results from environmental monitoring and effluent compliance history were summarized in the fact sheet and considered during permit reissuance.

The commenter request state-of-the-art technology for monitoring under the permit. In consideration of past monitoring results, regulatory requirements, and other factors, EPA has made a number of adjustments to the monitoring requirements during this reissuance: WET test methods were updated including the addition of a new test, sample frequencies were adjusted for effluent monitoring, sediment and biota sample sites were adjusted, total recoverable oil and grease was added as a parameter, and test methods were updated for hydrocarbon analysis (require EPA Methods 624 and 625).

Alaska Coastal Management Program (ACMP). The ADEC 401 Certification letter of May 24, 2004, provides certification that there is reasonable assurance that the activities to be authorized by the permit are in compliance with the standards of the ACMP, 6 AAC 80, provided that the terms and conditions of the certification are adhered to. “These terms and conditions are adopted pursuant to 6 AAC 50 (Project Consistency with the Alaska Coastal Management Program) and are necessary to ensure that projects that are authorized under the permit are consistent with the ACMP. The previous permit was found to be consistent with 6 AAC 50 and since no major modifications to the facility and/or the final permit have occurred

the project is found to be consistent with ACMP.”

References

Alaska Department of Environmental Conservation. ADEC 401 Certification letter to Carl Rutz, Alyeska Pipeline Service Company, May 24, 2004.

Alyeska Pipeline Service Company. Comment letter on draft NPDES permit to EPA from Rod Hanson, Valdez Marine Terminal Manager, dated June 9, 2003.

Alyeska. Electronic mail, "Update re Wax in 90's Tanks", from R. Ranger, Alyeska, to T. Kuckertz, PWSRCAC, May 20, 2003.

Feder, H.M. and Shaw D.G. "Environmental Studies in Port Valdez, Alaska: 2000." Final Report to Alyeska Pipeline Co., Inst. of Marine Science, University of Alaska Fairbanks.

National Marine Fisheries Service. Comment letter on draft NPDES permit to EPA from Mr. James W. Balsiger, Administrator, Alaska Region, dated June 18, 2003.

Prince William Sound Regional Citizens' Advisory Council (RCAC). Comment letter on draft NPDES to EPA from Mr. John Devens, Executive Director, dated June 4, 2003.

RCAC. "Evaluation of Mixing Zone and NPDES Permit Renewal Applications for BWTF at Alyeska Marine Terminal." Final report, April 22, 2003.

RCAC. "Port Valdez Monitoring Report. Contract No. 633.01.1, February 7, 2002.

RCAC. "Assessing Transport and Exposure Pathways and Potential Petroleum Toxicity to Marine Resources in Port Valdez, Alaska", Final report prepared for RCAC Contract No. 956.02.1, December 21, 2001.

U.S. EPA. Bruce Woods. "Comments on Alkylated PAH Monitoring in the Proposed Alyeska Ballast Water Treatment Facility NPDES Permit." Memorandum, October 1, 2003.

U.S. EPA. Fact Sheet and Technical Evaluation for Draft NPDES Permit, AK-0023248, July 11, 1996.